



From linear programming to graph theory: Standardization of the algebraic model of timed event graphs

Submitted by Emmanuel Lemoine on Thu, 01/30/2014 - 14:52

Titre	From linear programming to graph theory: Standardization of the algebraic model of timed event graphs
Type de publication	Communication
Type	Communication avec actes dans un congrès
Année	2009
Langue	Anglais
Date du colloque	2009
Titre du colloque	International Conference on Computers Industrial Engineering, CIE 2009
Titre des actes ou de la revue	International Conference on Computers Industrial Engineering, CIE 2009
Pagination	1542 - 1547
Auteur	Guezzi, Abdelhak [1], Declerck, Philippe [2]
Pays	France
Ville	Troyes
ISBN	978-1-4244-4135-8 / 978-1-4244-4136-5
Mots-clés	Algebra [3], algebraic model [4], automatic control [5], autoregressive model [6], Control system synthesis [7], Control Systems [8], discrete event systems [9], Equations [10], graph theory [11], Linear matrix inequalities [12], linear programming [13], matrix algebra [14], Predictive models [15], standard incidence matrices [16], Standardization [17], timed event graphs [18]
Résumé en anglais	<p>The aim of this paper is the standardization of the algebraic model of timed event graphs defined in the conventional algebra. The result of the proposed technique is an auto-regressive model similar to the sampled state equations of the automatic control. Based on standard incidence matrices, this new model is a set of inequalities defined on a reduced horizon which allows an efficient calculation of the state trajectory knowing the initial state and the control. The starting point of the approach is the algebraic model deduced from the initial timed event graph. Using linear programming, we give two dual techniques which allow the building of the standardized model and the corresponding timed event graph. This study improves our understanding of the connections between linear programming and graph theory.</p>
Notes	Date du colloque : 07/2009
URL de la notice	http://okina.univ-angers.fr/publications/ua1618 [19]
DOI	10.1109/ICCIE.2009.5223893 [20]
Lien vers le document en ligne	http://dx.doi.org/10.1109/ICCIE.2009.5223893 [20]

Liens

- [1] [http://okina.univ-angers.fr/publications?f\[author\]=2004](http://okina.univ-angers.fr/publications?f[author]=2004)
- [2] <http://okina.univ-angers.fr/philippe.declerck/publications>
- [3] [http://okina.univ-angers.fr/publications?f\[keyword\]=233](http://okina.univ-angers.fr/publications?f[keyword]=233)
- [4] [http://okina.univ-angers.fr/publications?f\[keyword\]=6279](http://okina.univ-angers.fr/publications?f[keyword]=6279)
- [5] [http://okina.univ-angers.fr/publications?f\[keyword\]=6252](http://okina.univ-angers.fr/publications?f[keyword]=6252)
- [6] [http://okina.univ-angers.fr/publications?f\[keyword\]=6280](http://okina.univ-angers.fr/publications?f[keyword]=6280)
- [7] [http://okina.univ-angers.fr/publications?f\[keyword\]=6254](http://okina.univ-angers.fr/publications?f[keyword]=6254)
- [8] [http://okina.univ-angers.fr/publications?f\[keyword\]=6255](http://okina.univ-angers.fr/publications?f[keyword]=6255)
- [9] [http://okina.univ-angers.fr/publications?f\[keyword\]=5780](http://okina.univ-angers.fr/publications?f[keyword]=5780)
- [10] [http://okina.univ-angers.fr/publications?f\[keyword\]=3145](http://okina.univ-angers.fr/publications?f[keyword]=3145)
- [11] [http://okina.univ-angers.fr/publications?f\[keyword\]=6261](http://okina.univ-angers.fr/publications?f[keyword]=6261)
- [12] [http://okina.univ-angers.fr/publications?f\[keyword\]=6281](http://okina.univ-angers.fr/publications?f[keyword]=6281)
- [13] [http://okina.univ-angers.fr/publications?f\[keyword\]=5896](http://okina.univ-angers.fr/publications?f[keyword]=5896)
- [14] [http://okina.univ-angers.fr/publications?f\[keyword\]=6282](http://okina.univ-angers.fr/publications?f[keyword]=6282)
- [15] [http://okina.univ-angers.fr/publications?f\[keyword\]=6268](http://okina.univ-angers.fr/publications?f[keyword]=6268)
- [16] [http://okina.univ-angers.fr/publications?f\[keyword\]=6283](http://okina.univ-angers.fr/publications?f[keyword]=6283)
- [17] [http://okina.univ-angers.fr/publications?f\[keyword\]=4063](http://okina.univ-angers.fr/publications?f[keyword]=4063)
- [18] [http://okina.univ-angers.fr/publications?f\[keyword\]=6274](http://okina.univ-angers.fr/publications?f[keyword]=6274)
- [19] <http://okina.univ-angers.fr/publications/ua1618>
- [20] <http://dx.doi.org/10.1109/ICCIE.2009.5223893>

Publié sur *Okina* (<http://okina.univ-angers.fr>)